

# MADISON COUNTY

## **INTEROPERABLE COMMUNICATIONS PRIORITIES SUMMARY (15 March 2006)**

### **1. Critical Site Improvements (Immediate)**

- **Problem:** Primary transmitter site at Virginia City housed in a dilapidated wooden structure with holes in it, no foundation, no HVAC, etc. System is essentially ungrounded. Xmtr activation is via radio link from dispatch center in Virginia City. There is no access limiting security at all. Adequate back-up power is lacking, although batteries and a used trickle charger were installed July 05. No lease agreement exists either for the transmitter itself or for access (through several independently owned parcels) over very inadequate "road". Accessibility marginal in winter.
- **Proposed Solution:**
  - Preferred Alternative:** Albeit more expensive, the better solution would be to relocate the site about 4 miles east (to an existing site on BLM leased land) as part of a general improvement in coverage (see priority #3). This would probably allow linkage by land-line. Relocation would also greatly improve coverage in SE portion of county but possibility exists for some small loss in NW, therefore relocation should be done in conjunction with coverage improvements done in priority #2, sub categories 1, and 2. Estimated cost: \$150,000 (For this portion alone, plus costs associated with priority #2).
  - Second Alternative:** Upgrade existing site, including negotiation of permanent legal agreements. Estimated cost: \$50,000

### **2. Improved Coverage (Near Term)**

- **Problem:** Coverage (particularly talk-in) lacking in several critical areas, principally Northern, Southern and Big Sky portions of county. This problem is complicated by the need for all sites to be: capable of analogue operations but upgradeable to digital; capable of wide band operation but upgradeable to narrow band in the next few years; capable of supporting a move from one-channel county system to a 2 or 3 channel system; compatible with eventual micro-wave link-up at appropriate sites and related Interoperability Montana considerations issues
- **Proposed solution:**
  - SubPriority 1.** Provide single channel, analog repeater capability in Madison Mountains (Andesite Mountain, SaddleBack Ridge, or Lone Mtn area) to allow direct communications from Dispatch to units in Big Sky. Estimated cost: \$60,000
  - SubPriority 2.** Install new repeater near Twin Bridges (Table Mountain?) in conjunction with relocated primary public safety transmitter at Virginia City IAW Preferred alternative under first priority. Estimated cost of new site: \$65,000.
  - Sub Priority 3.** Install new Gold Butte repeater in Gravelly Mountains per Interop. Comms Plan. Estimated cost: \$180,000

### **3. Joint Procurement (Immediate)**

- **Problem:** County is sorely lacking in either expertise (technical or administrative) or funds with which to procure equipment. This places a premium on purchase of appropriate equipment to maximize opportunity to get the most for the least. Additionally, increased O&M demands concurrent with phasing in of statewide interoperable comms will be offset somewhat if some commonality of procurement is achieved.

- **Proposed solution:** Obtain “economies of scale” through negotiation of a joint procurement agreement for fixed and non-fixed equipment. This would be valuable in itself, but it would also be an initial step in a “learning process” leading toward accomplishment of Priority #6. This would, perhaps, make it appropriately initiated under the leadership of the SCMIC Technical Committee.

#### 4. Non-fixed Equipment (Near Term)

- **Problem:** CTA found that “subscriber equipment in Madison County is in the most critical need of replacement of all of the five counties.” Austere requirement for minimal narrowband capability (identified as an “Immediate Need”) have essentially been met subsequent to that survey using FY 04 HSGP funds, however most of the county responders continue to operate with hand-me-down units or units that were purchased by the individual responders themselves. Avg age is about 15 yrs for portables. Material procured must be P25 compliant, capable of narrowband and wideband; analogue and at least upgradeable to digital; compatible with upgrade to 2 or 3 channel county system; upgradeable to trunking.
- **Proposed solution:** Procure required portable, mobile, and station radios and pagers for all responders throughout the county. Estimated cost: \$700,000.

#### 5. Dispatch Center/PSAP Console Replacement & Upgrade (Near Term)

- **Problem:** SCMIC Interop Comms Plan states, “The dispatch consoles at the Madison County Sheriff’s Department should be replaced as soon as funds are available.” Current equipment is obsolescent. Motorola no longer supports the existing consoles, making spare parts procurement and maintenance extremely difficult. In addition, throughout the county the paging system is problematic, with large dead-spots and frequent spurious signals. The County currently operates as a one-channel public safety comms system. The plan also recommends that “...an additional channel be added at all sites...” This would then also entail upgrade of all xmtr/rptr sites to accommodate the new channel. Compounding this situation is the soon to be realized requirement to shift to narrowband (prior 2013) and the independent need for some conversion to digital capability in the not-too-distant future.
- **Proposed solution:** Upgrade Dispatch to contemporary P25 standards and provide for two analog, public safety channels with capability for conversion to narrowband, digital use at a future date within the next five years. Concurrently improve paging capability. Estimated cost: \$300,000

#### 6. Shared maintenance project (Near Term)

- **Problem:** Assuming capital costs for this project are somehow resolved, the O&M portion of the costs are huge. Madison County maintenance costs upon completion of all immediate and near term requirements estimated by CTA to be \$52,200/year. Similar costs for the consortium are \$287,800 annually. In addition, the county is essentially bare of any form of technical expertise. Group contracting for maintenance offers a potential cost reduction avenue.
- **Proposed solution:** Begin work leading to an RFP and/or contract for group maintenance of both fixed and non-fixed equipment. Initial steps in this process would probably best be undertaken by the technical committee.